

KNOCKDOWN FURNITURE ASSEMBLY AND METHOD FOR MAKING SAME

Technical Field and Background of the Invention

[0001] The invention relates to a furniture assembly, particularly for an upholstered sofa or futon, that can be easily assembled and disassembled by the user with minimal tools. The invention provides a knockdown furniture assembly that maintains strength and stability.

[0002] Several furniture manufacturers in the United States produce upholstered goods that can be disassembled for shipping and moving, and then reassembled at their final destination. Such knockdown furniture has typically used arm pieces having threaded inserts that accept bolts extending from a frame piece. However, after several years of use the inserts wallow out of the hole in which they are set causing the furniture to become unstable and ultimately unusable. In an effort to overcome and eliminate the aforementioned problems, the present invention was conceived.

Summary of the Invention

[0003] Therefore it is an object of the present invention to provide a furniture piece that can be disassembled into separate pieces for transporting in small areas, and easily reassembled at the ultimate destination.

[0004] It is another object of the invention to provide an upholstered knockdown furniture piece that retains stability and strength overtime.

[0005] It is yet another object of the invention to provide a knockdown furniture piece that can be easily assembled with minimal tools.

[0006] These and other objectives of the present invention are achieved by providing a

knockdown furniture assembly having a first arm piece with at least one connecting member extending outward therefrom and a frame having at least one aperture therein for receiving the connecting member. The connecting member is adapted for releasable engagement in the frame aperture so that the arm piece is releasably connected to the frame.

[0007] According to one preferred embodiment of the invention, the arm piece includes a rail defining at least one opening for positioning the connecting member therethrough.

[0008] According to another preferred embodiment of the invention, the connecting member comprises a carriage bolt inserted through the opening in the rail and held in place on the rail by frictional engagement with a first releasable fastening assembly.

[0009] According to yet another preferred embodiment of the invention, the first fastening assembly comprises a flat washer, a lock washer and a nut for positioning on the connecting member.

[0010] According to yet another preferred embodiment of the invention, the rail includes a side facing the frame having a countersunk area adjacent the opening for positioning the first fastening assembly so that the rail is positionable in flush engagement with the frame.

[0011] According to yet another preferred embodiment of the invention, the carriage bolt is positioned within the aperture of the frame and held in place within the frame by frictional engagement with a second releasable fastening assembly so that the arm piece is releasably connected to the frame.

[0012] According to yet another preferred embodiment of the invention, the arm piece can be disconnected from the frame by disengaging the second fastening assembly and withdrawing the carriage bolt from the aperture in the frame.

[0013] According to yet another preferred embodiment of the invention, a second arm piece is releasably connected to the frame.

[0014] According to yet another preferred embodiment of the invention, the frame is rectangular, and the first arm piece and the second arm piece are connected at opposite sides of the frame.

[0015] According to yet another preferred embodiment of the invention, a seating support is mounted on the frame.

[0016] According to yet another preferred embodiment of the invention, a back support is mounted on the frame.

[0017] According to yet another preferred embodiment of the invention, each arm piece includes two connecting members extending outward therefrom.

[0018] According to yet another preferred embodiment of the invention, the furniture assembly is a sofa, futon or chair, and the arm piece includes an armrest.

[0019] An embodiment of the method for making a knockdown furniture assembly according to the invention includes providing an arm piece having an least one opening, and inserting a connecting member through the arm piece opening and fastening the connecting member to the arm piece by frictionally engaging the connecting member with a releasable fastening assembly. A frame having an aperture for receiving the connecting member is provided. The connecting members are inserted through the frame aperture and the connecting member is fastened to the frame by frictionally engaging the connecting member with a second releasable fastening assembly so that the arm piece and the frame are releasably connected.

[0020] According to yet another embodiment of the invention, the arm piece is upholstered so as to leave the opening and the connecting member exposed.

[0021] According to yet another embodiment of the invention, the frame is upholstered so as to leave the aperture exposed.

[0022] According to yet another embodiment of the invention, the arm piece and the frame are upholstered such that areas of the arm piece and the frame that contact each other are left exposed.

[0023] Another embodiment of the method for making a knockdown furniture assembly according to the invention includes providing an arm piece having a rail defining a first opening and a second opening, and inserting a first carriage bolt through the first arm piece opening and inserting a second carriage bolt through the second arm piece opening. The first and second carriage bolts are fastened to the arm piece by frictionally engaging the first and second carriage bolts with a first and second washer and nut assemblies. A frame having a first aperture and a second aperture for receiving the first carriage bolt and the second carriage bolt are provided. The first carriage bolt is inserted through the first frame aperture, and the second carriage bolt is put through the second frame aperture. The carriage bolts are fastened to the frame by frictional engagement with washer and nut assemblies.

[0024] According to yet another embodiment of the invention, the arm piece is upholstered such that the carriage bolts remain exposed.

Brief Description of the Drawings

[0025] Some of the objects of the invention have been set forth above. Other objects and

advantages of the invention will appear as the invention proceeds when taken in conjunction with the following drawings, in which:

[0026] Figure 1 is a perspective view of a knockdown furniture assembly according to a preferred embodiment of the invention;

[0027] Figure 2 is a partial, exploded view of the knockdown furniture assembly of Fig. 1;

[0028] Figure 3 is a partial perspective view of the furniture assembly of Fig. 1;

[0029] Figure 3A is a partial cross sectional view of the furniture assembly viewed along line 3A in Fig. 3;

[0030] Figure 4 is a perspective view of the furniture assembly of Fig. 1, with a seating support for a futon mounted on the frame; and

[0031] Figure 5 is a perspective view of the knockdown furniture assembly of Fig. 4, shown upholstered.

Description of the Preferred Embodiment and Best Mode

[0032] Referring now specifically to the drawings, a preferred embodiment of the knockdown furniture assembly according to the present invention is illustrated in Figure 1, and shown generally at reference numeral 10. The furniture assembly 10 generally comprises a frame 11 releasably connected to two arm pieces 12, 13. The frame 11 is preferably rectangular with sides 11a-d, and the arm pieces 12, 13 are positioned on opposite sides 11a, 11d of the frame 11. The frame 11 and arm pieces 12, 13 are preferably made of wood.

[0033] Each arm piece 12, 13 is identical, and therefore, only one arm piece 12 will be

described in detail. As shown in Figure 2, arm piece 12 comprises two vertical members 12a, 12b, joined together by a horizontal top rail 12c, and a double bottom rail 12d. Two holes 13, 14 are formed in the bottom rail 12d of the arm piece 12. Carriage bolts 15, 16 are inserted into the holes 13, 14, and fastened to the rail 12d by tightening suitable fasteners, such as flat washers 17, lock washers 18 and nuts 19, on the carriage bolts 15, 16. The fasteners 17, 18, 19 are countersunk in the rail 12d to allow for a flush connection between the rail 12d and the frame 11.

[0034] At this point, the arm pieces 12 can be upholstered. When upholstering the arm piece 12, the side of the rail 12d facing the frame 11 is left unupholstered, and the heads of the carriage bolts 15, 16 on the opposite side of the rail 12d are also left exposed. The heads of the carriage bolts 15, 16 are uncovered so that the carriage bolts 15, 16 can be removed or replaced during future reupholstering if necessary.

[0035] The frame 11 is upholstered separately from the arm pieces 12, 13. The surfaces of sides 11a, 11d, facing the arm pieces 12, 13 are left unupholstered.

[0036] Sides 11a, 11d of the frame 11 are identical, and therefore only side 11d will be discussed in detail. As shown in Figure 2, two apertures 20, 21 are drilled into frame side 11d. The exposed sections of the carriage bolts 15, 16 extending outward from the rail 12d are inserted into the apertures 20, 21 of the frame side 11d and fastened by tightening flat washers 22, lock washers 23 and nuts 24, as shown in Figures 2, 3 and 3A.

[0037] A seating support 25, such as for a futon as shown in Figure 4, is mounted on the frame 11. Both the frame 11, and the arm pieces 12, 13 are upholstered at this point, and the seating support 25 is upholstered to form the upholstered furniture assembly 10 shown in Figure 5. The finished furniture assembly 10 is sturdy and strong, and can be easily

disassembled for delivery through into lofts and small rooms. For example, arm piece 12 can be disconnected from the frame 11 by disengaging the fasteners 22-24 and withdrawing the carriage bolts 15, 16 from the apertures 20, 21 in frame side 11d. The identical process is used to disconnect arm piece 13 from frame side 11a. With the arm pieces 12, 13 separated from the frame 11, the frame 11 and the arm pieces 12, 13 can be more easily transported through door openings, hallways, stairwells and other narrow passages. The frame 11 and arm pieces 12, 13 can be reassembled by simply repeating the steps described above.

[0038] In an alternative embodiment, the furniture assembly is a sofa with an upholstered back piece. In such an embodiment, the arm pieces include a vertical member having holes to accept carriage bolts that are inserted into a second frame positioned vertically. The second frame is connected to the vertical members of the arm pieces in the same manner as described above for frame 11 and bottom rail 12d. The upholstered back piece of the sofa is mounted in the second frame.

[0039] A knockdown furniture assembly and a method for making same is disclosed above. Various embodiments of the invention can be made without departing from its scope. Furthermore, the foregoing description of the preferred embodiment of the invention and the best mode for practicing the invention are provided for the purpose of illustration only and not for the purpose of limitation-- the invention being defined by the claims.